

# Noteworthy records of birds from the Pantanal, Chiquitano dry forest and *Cerrado* of south-western Brazil

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South-western Brazil is a very important area for birds in South America, with more than 700 species recorded (Dubs 1992, Tubelis & Tomas 2003), a richness explained by the presence of several major vegetation types (Brown 1986). The Pantanal is one of the largest floodplains in the world, located in the upper rio Paraguay basin (Alho & Gonçalves 2005, Harris *et al.* 2005), and harbours an avifauna of more than 450 species (Tubelis & Tomas 2003), including 133 migrants (Nunes & Tomas 2004). The flora and fauna of the Pantanal possess biogeographical affinities with five South American ecosystems: Amazonia to the north; the *Cerrado* to the north, east and south; the Chiquitano dry forest to the west; the Chaco to the south-west; and the Atlantic Forest to the south-east (Brown 1986, Rizzini *et al.* 1991, Dubs 1992, Prado *et al.* 1992, Pott & Pott 1994, Rizzini 1997, Alho & Gonçalves 2005, Vasconcelos & Hoffmann 2006). The Chiquitano is the largest patch of well-preserved dry forest in the Neotropics (Parker *et al.* 1993). This region was formerly considered as transitional between the Gran Chaco and Amazonia regions, but was recently recognised as a distinctive vegetation type (Parker *et al.* 1993, Davis *et al.* 1997). The major part of the Chiquitano dry forest is in Bolivia, with only a very restricted area in extreme western Brazil (Olson & Dinerstein 1998, Vasconcelos & Hoffmann 2006, National Geographic Society 2007, WWF 2007). The *Cerrado* is by far the largest savanna formation in South America, being central in relation to other biomes in the continent (Rizzini 1997, Gottsberger & Silberbauer-Gottsberger 2006). It is distributed across much of central Brazil, but also reaches extreme north-east Paraguay and eastern Bolivia (Rizzini 1997, Gottsberger & Silberbauer-Gottsberger 2006). *Cerrado* also occurs on the summits of isolated massifs of pre-Cambrian origin (*morrarias* in Brazil / *serranías* in Bolivia) along the rio Paraguay and within the Chiquitano dry forest region (Dubs 1992, Bates *et al.* 1992, Parker *et al.* 1993, Pott *et al.* 2000). Here, we present new and noteworthy records of birds from the Pantanal, Chiquitano dry forest and *Cerrado* of south-west Brazil, and comment on conservation, geographic ranges, migration and hybridisation of some species.

## Methods

Birds were identified in the field visually and by their vocalisations. Tape-recordings were made using Sony TCM-5000 EV and Panasonic RQ-L31 tape-recorders and Sennheiser ME-66 and ME-88 microphones. Copies of all vocalisations have been deposited at the Arquivo Sonoro Prof. Elias Coelho (ASEC), Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. Specimens were collected using shotguns and mist-nets, and are deposited at the Coleção Ornitológica do Departamento de Zoologia da Universidade Federal de Minas Gerais (DZUFMG), Belo Horizonte, Minas Gerais, and Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo, Brazil. Some were compared to those housed at the following institutions: American Museum of Natural History, New York (AMNH), Museu de Zoologia da Universidade de São Paulo, São Paulo (MZUSP), and Museu Paraense Emílio Goeldi, Belém (MPEG). Systematic order and

nomenclature follow the Brazilian Ornithological Records Committee (Comitê Brasileiro de Registros Ornitológicos 2006).

Field work was conducted in Corumbá municipality, Mato Grosso do Sul, and in Pirizal, Nossa Senhora do Livramento municipality, and Fazenda Descalvados, Cáceres, these last in Mato Grosso. Sites at Corumbá were surveyed by MFV and DH on the following dates: 16–21 September 2005, 17–22 November 2005, 12–23 January 2006 and 13–18 May 2006. Sites at Pirizal were visited by LEL on 7–21 September 2005 and 7–13 February 2006. Several sites at and around Fazenda Descalvados were surveyed by LFS and FS on 1–9 September 2007. Field records were obtained at the localities detailed below. Coordinates were taken from GPS readings or obtained from online satellite images (<http://earth.google.com>).

**Retiro Novo** (16°22'S, 56°18'W), Nossa Senhora do Livramento municipality: a cattle ranch located in the Pantanal floodplain (elevation 125 m).

**Moqué** (16°23'S, 56°16'W), Nossa Senhora do Livramento municipality: abandoned pastures, semi-deciduous forests (locally known as *mata de cordilheira*), and seasonally flooded riparian forests along the right bank of the rio Piraim (125 m).

**Fazenda Descalvados** (16°43'S, 57°44'W), Cáceres municipality: a 19th-century farm on the right bank of the rio Paraguay, with Chiquitano dry forest, pastures, cultures, marshes and gallery forest (140 m).

**Assentamento Taquaral** (19°08'–19°10'S, 57°41'–57°44'W), Corumbá municipality: a settlement with many small properties, covered by pastures, cultures and fragments of Chiquitano dry forest (90–110 m).

**Fazenda Vale do Ribeiro** (19°11'–19°12'S, 57°40'–57°41'W), Corumbá municipality: a farm on the west slope of Morraria Tromba dos Macacos, covered mainly by Chiquitano dry forest (200–550 m).

**Maçico do Urucum (Morro São Domingos)** (19°12'S, 57°35'W), Corumbá municipality: a spectacular massif rising from the lowlands of the Pantanal. The slopes are covered by Chiquitano dry forest, whereas the summit vegetation comprises *Cerrado* and gallery forests (1,010 m).

**Maçico do Urucum (west slope)** (19°14'S, 57°38'W), Corumbá municipality: an area covered by Chiquitano dry forest (165–210 m).

**Fazenda Figueirinha** (19°15'–19°17'S, 57°39'–57°41'W), Corumbá municipality: a cattle ranch covered by Pantanal and Chiquitano dry forest (85–100 m).

**Parque Municipal Piraputangas** (19°16'S, 57°35'W), Corumbá municipality: a reserve on the south-west slope of Maçico do Urucum covered mainly by Chiquitano dry forest, with gallery forest along streams (130–230 m).

**Sítio Limãozinho** (19°17'S, 57°35'W), Corumbá municipality: an area close to Parque Municipal Piraputangas, covered by second-growth Chiquitano dry forest, pastures and agriculture (145 m).

**Fazenda Monjolo** (19°18'–19°20'S, 57°33'–57°35'W), Corumbá municipality: a farm south of Maçico do Urucum, covered mainly by Chiquitano dry forest, with small lakes and marshes (110–265 m).

**Estação Albuquerque** (19°26'S, 57°30'W), Corumbá municipality: a railway station with pastures and degraded areas of Pantanal wetland (85 m).

## Species accounts

### **BARE-FACED CURASSOW** *Crax fasciolata*

Despite being a common species known from many sites in the Brazilian Pantanal (Dubs 1992, del Hoyo 1994, Tubelis & Tomas 2003, Antas & Palo Jr 2004), *C. fasciolata* is rare in the Bolivian Chaco and Chiquitano dry forest (Parker *et al.* 1993, Brooks *et al.* 2005). Parker *et al.* (1993) did not find it in the region of Cerro Mutún, at the border between Bolivia and Brazil, south of Puerto Suárez. A female was photographed by J. A. Ribeiro in 2004 (precise date unknown) in a Chiquitano dry forest at Fazenda Vale do Ribeiro, just 19 km east of Cerro Mutún. During 30 days of intensive field work in the Chiquitano dry forest of Corumbá we failed to detect this curassow, but it is very common at Fazenda Descalvados, with 25+ birds during ten days of field work. Specimens taken at this locality (MZUSP 79216–17) agree with the widespread nominate race. The rarity of *C. fasciolata* in the Brazilian Chiquitano (and probably in adjacent Bolivia) is related to overhunting, as local people informed us that the species was more common in the past, but they still hunt it when they have the opportunity. Another recent record from the Corumbá region was presented by Mauro & Campos (2000). Clay & Oren (2006) recently suggested that the species should be considered Near Threatened due to the combination of hunting pressure and habitat loss. Like any large-bodied curassow, *C. fasciolata* is hunted in many places and also suffers from habitat destruction. However, nominate Bare-faced Curassow has the largest distribution of any curassow, being common at numerous sites within its range, especially in the Brazilian Pantanal. Also, new populations appear to have become established in protected areas such as Serra da Canastra National Park (Bruno *et al.* 2006). The conservation status of the nominate race deserves more objective monitoring, before listing this curassow as Near Threatened.

### **LEAST BITTTERN** *Ixobrychus exilis*

Previously known in the Pantanal floodplain only from sight records along the Transpantaneira highway (Tubelis & Tomas 2003), though A. Whittaker (*vide* K. J. Zimmer *in litt.* 2007) has tape-recorded multiple individuals along the Transpantaneira whilst leading birding groups there during various May visits in 2002–06. Some of these birds were also photographed by group participants. The first specimen record for the Pantanal is an adult male (DZUFMG 5089), collected by LEL in a marsh at Retiro Novo on 16 September 2005. The specimen had enlarged testes (7 mm) and was shot after it flushed from amidst clumps of *Eichornia* sp. (Pontederiaceae), in the margins of a natural lake ('Bahia dos Coqueiros'). The species is very secretive, but apparently locally not uncommon. In three mornings of field work at this lake LEL flushed another two from aquatic vegetation. Similarly, A. Whittaker (*vide* K. J. Zimmer *in litt.* 2007) judges that the species is fairly common along the Transpantaneira, but is apparently much more vocal in May than at other seasons, making the species easily overlooked. At Fazenda Descalvados and neighbouring Estação Ecológica Taiaimã the species is not rare, being vocal even during the hottest hours of the day, and several were heard or seen by LFS, FS and Marcelo Pádua. When attracted using playback, the birds usually did not fly towards the sound.

### **MISSISSIPPI KITE** *Ictinia mississippiensis*

This raptor migrates from North America to Paraguay, Argentina and Bolivia (White 1994, Sick 1997, Baughman 2003). There are few records in Brazil: Anavilhanas, Amazonas (21



November 1985), Poconé municipality, Mato Grosso (February 1996), Chapada dos Guimarães, Mato Grosso (14 November 1996 and 14 October 1999), Transpantaneira highway, Mato Grosso (17 October 1997 and 12 October 1999), Fazenda Jatobá da Mata, Minas Gerais (10 January 2003), Tailândia, Pará (12 January 2006) and SESC Pantanal private reserve, Mato Grosso (in October, no specific date) (Stotz *et al.* 1992, Mazar Barnett *et al.* 1999, Mazar Barnett & Kirwan 2000a,b, Antas & Palo Jr 2004, Kirwan *et al.* 2004, Olmos *et al.* 2006). Whittaker *et al.* (in press) detail a number of additional records between 1996 and the present, amongst them a flock of 67 north of Aquidauana, Mato Grosso do Sul, on 17 October 2003. Videotape of this flock, by K. J. Zimmer, confirms the first record of Mississippi Kite for Mato Grosso do Sul, as well providing only the second physical evidence of the species for Brazil. On 17 January 2006, in the late afternoon (18.45 h), c.250 were observed by MFV flying over a Pantanal area at Fazenda Figueirinha, moving south-east to north-west. This appears to be the second record of *I. mississippiensis* for Mato Grosso do Sul.

#### **BLACK-BANDED OWL** *Strix huhula*

The first record for the Pantanal floodplain (Tubelis & Tomas 2003) is an adult male (DZUFMG 5030), with slightly enlarged testes (4 mm), collected by LEL at Moquéim on 13 February 2006. It was taken in a disturbed gallery forest lining a small creek that discharges into the rio Piraim. This owl is poorly known, locally distributed across almost all of Brazil (Pinto 1978, Sick 1997, Gonzaga & Castiglioni 2004), but with only scattered records in adjacent Bolivia (Remsen & Traylor 1983) and Paraguay (Lowen *et al.* 1997).

#### **BUFF-BELLIED HERMIT** *Phaethornis subochraceus*

This species' known range is restricted to the Chiquitano dry forest and adjacent Pantanal (Vasconcelos & Hoffmann 2006), where it has been recorded from relatively few, sparsely distributed localities, and confirmed by very few specimens (Parker *et al.* 1993, Hinkelmann 1999). On 18 September 2005, a female (DZUFMG 4578) was collected by MFV and DH within a fragment of Chiquitano dry forest at Fazenda Monjolo. Another was observed by MFV, on 21 November 2005, taking insects from spiders' webs in a legume at the edge of a Chiquitano dry forest, at Parque Municipal Piraputangas. On 15 January 2006 one was observed by MFV chasing another individual in the same area. Collecting localities of *P. subochraceus* in Brazil are: Fazenda São João (AMNH 127387, locality written as 'San Juan Fazenda' on the specimen's label) and Descalvados (AMNH 149425, MZUSP 79290–91). Other Brazilian locality records unsupported by specimens include: Recanto Passárgada, Porto Limão, the Serra da Bodoquena region and along the Transpantaneira highway (Cintra & Yamashita 1990, Willis & Oniki 1990, Tubelis & Tomas 2003, Pivatto *et al.* 2006). A record in the literature of Scale-throated Hermit *Phaethornis eurynome* from the Corumbá region (Mauro & Campos 2000) could pertain to a misidentification of *P. subochraceus*. *P. eurynome*, normally associated with the Atlantic Forest, is unknown from the Chiquitano dry forest, and the few records from the south-eastern Pantanal lack corroborative specimens (Dubs 1992, Tubelis & Tomas 2003).

#### **PICULET** *Picumnus 'corumbanus'*

Lima (1920) described *Picumnus lepidotus corumbanus* based on a male from Corumbá collected in November 1917 by E. Garbe. The specimen (MZUSP 9902) has pale underparts with very fine brownish bars and a few scales on the breast and flanks. Subsequently, in August 1930, J. L. Lima collected five additional specimens of 'corumbanus' at Miranda, Mato Grosso do Sul: a male (MZUSP 13150) and four females (MZUSP 13146–149). Plumage characters are not constant and these specimens show intermediate characters between *P.*



*cirratu*s and *P. albosquamatus*, especially in the underparts. All of them present, to greater or lesser extent, the fine bars of the type, and scaly marks of *P. albosquamatus*, on the breast. Pinto (1978) considered *P. l. corumbanus* a synonym of *P. minutissimus albosquamatus*. During our field expeditions to the Chiquitano dry forest of Corumbá, two male *Picumnus* (DZUFMG 4582, 4780) were collected by MFV at Sítio Limãozinho, on 21 November 2005 and 15 January 2006, respectively. Additionally, six specimens—two males (DZUFMG 4747–48) and four females (DZUFMG 4749–52)—were taken by MFV and DH at Fazenda Monjolo on 18–21 January 2006. This series was compared directly to the six specimens of ‘*corumbanus*’ in MZUSP. All were extremely variable in the underparts, showing the same patterns observed in the MZUSP specimens. Short (1982) had previously pointed to the frequent interbreeding of *P. cirratu*s and *P. albosquamatus* in southernmost Mato Grosso. We suspect that all specimens of ‘*corumbanus*’ held in MZUSP and DZUFMG are hybrids between the two species. If they are, this hybrid zone appears to have been stable for more than 70 years. Tissue samples were collected and molecular studies are recommended to understand the pattern of hybridisation by *Picumnus* at the ecotone between Chiquitano dry forest and Pantanal. Similarly variably-plumaged individuals were observed by MFV and DH at the following localities: Estação Albuquerque (18 November 2005), Fazenda Figueirinha (19 November 2005, 14 and 16 January 2006), Assentamento Taquaral (20 November 2005, 17 January 2006 and 16 May 2006), Fazenda Vale do Ribeiro (16 January 2006), and the west slope of Maciço do Urucum (15 May 2006). It is possible that the observations of *P. cirratu*s by Parker *et al.* (1993) in the adjacent forests of Cerro Mutún also relate to these hybrids.

#### AMAZONIAN STREAKED ANTWREN *Myrmotherula multostriata*

Only recently elevated to specific status, *M. multostriata* reaches its southernmost limits in north-east dpto. Santa Cruz, Bolivia, in the rio Guaporé drainage (Isler *et al.* 1999). On 15 May 2006, a singing individual was tape-recorded by MFV at the edge of a second-growth Chiquitano dry forest on the west slope of Maciço do Urucum. The tape-recording was compared with those on Isler & Whitney (2002) and match the loudsongs of *M. multostriata* and the more northerly *M. surinamensis*, which are sister species (Isler *et al.* 1999). As the loudsongs of the two species are not diagnosably different (Isler *et al.* 1999, Zimmer & Isler 2003), our identification of the Maciço do Urucum bird as *multostriata*, as opposed to *surinamensis*, which is known only from north of the rio Amazonas, is based on geographic proximity. Nonetheless, this is an unexpected record of an Amazonian bird in Chiquitano dry forest, and extends the species’ range more than 600 km to the south-east. Parker *et al.* (1993) also found some Amazonian taxa of birds and mammals at other localities in the Bolivian Chiquitano dry forest. This is the first record of *M. multostriata* in Mato Grosso do Sul and in the rio Paraguay basin. Given the range disjunction and the habitat discrepancy presented by this record (Zimmer & Isler 2003), it would be desirable to collect specimens from the forests of Maciço do Urucum and other localities in the Chiquitano dry forest, to evaluate possible geographical variation in the plumage of this southern population.

#### PALE-BELLIED TYRANT-MANAKIN *Neopelma pallescens*

Despite being common virtually across the entire *Cerrado*, with scattered records to southern Guyana (Robbins *et al.* 2004), eastern Bolivia (Bates & Parker 1998), the Amapá savannas (Silva *et al.* 1997), the rios Tapajós and Amazonas, in the Amazon (Pinto 1944), and coastal north-east Brazil (Pinto 1944, Pinto & Camargo 1961), the following is the first record on the Pantanal. On 9 February 2006, LEL collected an unsexed individual (DZUFMG 5097)

in a *mata de landi*, a seasonally flooded thicket, at Retiro Novo. The species is apparently common in the area.

#### **SUBTROPICAL DORADITO** *Pseudocolopteryx acutipennis*

Recently recorded in Brazil in coastal Paraná (Bornschein & Reinert 1999, Bornschein 2001) and twice in July 2002 and again in June 2003, on a river island in Rondônia (Whittaker 2004). It is assumed that populations of *P. acutipennis* breeding in the Andes of Bolivia and Argentina migrate during the austral winter to the Chaco of north-west Argentina, Bolivia and Paraguay (Fjeldså & Krabbe 1990). Navas (2002) also presented data confirming that this species breeds in Argentina during spring and summer, including areas at low elevations. His observations suggest that *P. acutipennis* from Argentina can also migrate north during autumn and winter. On 17 September 2005, a male (DZUFMG 4573) was collected by MFV and DH in a marsh with grasses, *Typha domingensis* (Typhaceae) and *Ludwigia* sp. (Onagraceae) in the environs of a Chiquitano dry forest at Fazenda Monjolo. The specimen was compared to one in MZUSP and with photographs of the entire series housed in AMNH. On 16 May 2006, another was observed by MFV in a Pantanal area at Fazenda Figueirinha and, on 8 September 2007, LFS, FS and Marcelo Pádua observed a doradito with the characters of *acutipennis* at Fazenda Descalvados. These are the first published records of *P. acutipennis* for the Brazilian Pantanal (Tubelis & Tomas 2003, Nunes & Tomas 2004) and for Mato Grosso do Sul. It is possible that these birds belong to migrant populations from the south or from the Andes, as both these records were from between autumn and winter, outside the known breeding period of the species (Navas 2002, Bostwick 2004). The specimen, an adult (skull fully pneumatized), was not in breeding condition (testes  $0.6 \times 0.4$  mm). The occurrence of *P. acutipennis* in the Corumbá region was expected, as the species is known from the adjacent Bolivian Chiquitano (Ridgely & Tudor 1994, Reichle *et al.* 2003).

#### **PLAIN TYRANNULET** *Inezia inornata*

This species, reported to be 'not well known in life' by Ridgely & Tudor (1994), is only known in the Pantanal from its extreme western and southern borders (Tubelis & Tomas 2003). It was tape-recorded at various points along the Transpantaneira by T. A. Parker as long ago as August 1991, and A. Whittaker and K. J. Zimmer (*in litt.* 2007) have tape-recorded multiple individuals near Pixaim during annual August and September visits in 1991–2006. G. M. Kirwan (*in litt.* 2007) recorded the species as late as October in the SESC Pantanal private reserve. It appears to be a fairly common austral migrant to this region, and is a regular member of mixed-species flocks of insectivores in gallery forest and adjacent scrubby borders during this period. An unsexed individual collected by LEL at Retiro Novo on 10 September 2005 (DZUFMG 5088) is the first specimen record for the northern Pantanal. The species was mist-netted in a *mata de cambará*, a seasonally flooded forest dominated by *Vochysia divergens* (Vochysiaceae). Additional specimens (two males) were collected by MFV at Fazenda Figueirinha on 19 November 2005 (DZUFMG 4581) and 16 January 2006 (DZUFMG 4755). Both were taken after being attracted by imitating the song of Ferruginous Pygmy-owl *Glaucidium brasilianum*. At Fazenda Descalvados, LFS and FS collected three (MZUSP 79346–48) in gallery forest beside the rio Paraguay, where the species is not rare, being easily located by its voice. Plain Tyrannulet is considered an austral migrant, also reaching the Cuiabá region and the states of Acre and Rondônia (Sick 1997), but records are in August–November/ December, including three taken at Urucum in late November 1913 (Naumburg 1930), suggesting that the species remains in Brazil longer than might be expected of a migrant.

**ALDER FLYCATCHER** *Empidonax alnorum*

Only two records of this North American migrant (Baughman 2003, Farnsworth & Lebbin 2004) are known for Brazil: a specimen from Santarém, Pará (24 February 1978), and the sighting of a singing bird at Manaus, Amazonas (15 December 1984) (Stotz *et al.* 1992, Ridgely & Tudor 1994, Sick 1997). On 19 November 2005 an unsexed individual (DZUFMG 4580) was collected by MFV in a Pantanal area at Fazenda Figueirinha, in the edge of dense *Parkinsonia aculeata* (Leguminosae) scrub close to a marsh. It was compared to that from Santarém, held in MPEG, and with photographs of the entire series at AMNH. This is the first record for *E. alnorum* in Mato Grosso do Sul and the Brazilian Pantanal (Tubelis & Tomas 2003, Nunes & Tomas 2004), and the third for Brazil. It was expected to occur in south-west Brazil as the species is known from nearby eastern dpto. Santa Cruz, Bolivia (Parker *et al.* 1993, Ridgely & Tudor 1994, Ayuso & Arambiza Segundo 2001, Reichle *et al.* 2003).

**CLIFF SWALLOW** *Petrochelidon pyrrhonota*

Known in the Pantanal only from a sight record along the Transpantaneira highway (Tubelis & Tomas 2003). A young female (DZUFMG 5102) found dead, by LEL, on 17 September 2005, at Retiro Novo, is the first documented record for the Pantanal floodplain. It apparently died after hitting a window. On the same day LEL also mist-netted a Barn Swallow *Hirundo rustica*. Cliff Swallow was only recently reported for Bolivia (Remsen & Traylor 1983).

**WHITE-RUMPED TANAGER** *Cypsnagra hirundinacea*

Known from sight records at the southern border of the Pantanal floodplain (Tubelis & Tomas 2003), thus the first documented record in the Pantanal wetland is of a female (DZUFMG 5067), collected by LEL, at Retiro Novo on 17 September 2005. It was associated with a mixed-species flock, from which Checkered Woodpecker *Picoides mixtus* (DZUFMG 5106), Campo Suiriri *Suiriri s. affinis* (DZUFMG 5126) and Black-throated Saltator *Saltator atricollis* (DZUFMG 5120) were also collected, in a wet savanna with forest islands on termite mounds (*campo de murundum*). All of these are common constituents of mixed-species flocks in the central Brazilian *Cerrado* (Alves & Cavalcanti 1996, Ragusa-Netto 2000, Lopes 2005), and apparently occur only at the borders of the Pantanal floodplain (Tubelis & Tomas 2003, Tubelis 2007).

**BLUE FINCH** *Porphyrospiza caerulescens*

This *Cerrado* endemic (Silva 1995a,b, 1997, Silva & Bates 2002) is known from few records at the western edge of its range (Naumburg 1930, Willis & Oniki 1990, Parker & Rocha 1991, Bates *et al.* 1992, Parker *et al.* 1993, Tubelis & Tomas 2003, Maillard & Catari 2004). On 18 November 2005, MFV collected a male (DZUFMG 4579) in a *campo sujo* atop Maciço do Urucum. The gizzard contained 80% dry seeds (45 seeds of grasses and two unidentified) and 20% arthropods (12 Lepidoptera larvae, five Coleoptera, one Formicidae and one Araneae). There is an old record of this species at the same site (Salvadori 1900 in Naumburg 1930). Parker *et al.* (1993) observed *P. caerulescens* on the summit of Cerro Mutún, just 29 km from Maciço do Urucum, but suspected that the closest populations would be further east, at Serra da Bodoquena, though the species was not found there in a detailed survey recently (Pivatto *et al.* 2006). These records demonstrate that island-like *cerrados* atop the 'morriarias' in the Pantanal and Chiquitano dry forest are important sites for the conservation of isolated populations of this Near-Threatened species (BirdLife International 2004).



**DULL-COLOURED GRASSQUIT** *Tiaris obscurus*

The first probable locality for this species in Brazil was Chapada dos Guimarães, Mato Grosso, where H. H. Smith collected two female grassquits, originally identified as *T. fuliginosus*, in August 1885 (Bates 1997). Bates (1997), after re-examining these specimens, suggested that they instead represented the first Brazilian records of *T. obscurus*. The species was subsequently observed by A. Whittaker near Cuiabá, Mato Grosso, on 16 September 2000; by Braulio Carlos near Poconé, Mato Grosso, on 8 March 2002; and again by Braulio Carlos at Chapada dos Guimarães, Mato Grosso, on 16 October 2002 (Whittaker & Carlos 2004). The first confirmed record for the country was of a bird found near Morro do Urucum, Mato Grosso do Sul, by K. J. Zimmer and A. Whittaker, and videotaped by Zimmer, on 13 October 2003 (Zimmer & Whittaker in press). On 19 September 2005 a specimen (DZUFMG 4745) was collected by MFV and DH in the same marsh where *P. acutipennis* was collected, at Fazenda Monjolo. It was compared to photographs of the series at AMNH. The specimen is an adult male (skull fully pneumatized; testes  $1.0 \times 0.5$  mm) with a bicoloured bill (dark maxilla and pale pinkish-cream mandible), and is similar to a photograph of a bird trapped in Paraguay (Clay *et al.* 1998), as well as matching the description by Bates (1997) of the morph occurring in the eastern Andes south of dpto. La Paz to northern Argentina. This is the first specimen for Mato Grosso do Sul, though its occurrence is unsurprising, as the species is known from adjacent dpto. Santa Cruz, eastern Bolivia (Parker *et al.* 1993, Bates 1997, Ayuso & Arambiza Segundo 2001, Reichle *et al.* 2003, Brumfield *et al.* 2004). Another male (MZUSP 79424; skull fully pneumatized; testes  $2 \times 1$  mm) was collected on 5 September 2007 by LFS and FS at Fazenda Descalvados. Migratory movements of this species in South America are still unknown, but all records in low-altitude sites east of the Andes were during the austral winter (Bates 1997, Capper *et al.* 2001). The small testes of our specimens and that they were collected in the austral winter suggest the birds were wintering in the Brazilian Chiquitano and Pantanal regions, c.700 km east of the Andes.

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**References:**

- Alho, C. J. R. & Gonçalves, H. C. 2005. *Biodiversidade do Pantanal: ecologia e conservação*. Ed. Uniderp, Campo Grande.
- Alves, M. A. S. & Cavalcanti, R. B. 1996. Sentinel behavior, seasonality, and the structure of bird flocks in a Brazilian savanna. *Orn. Neotrop.* 7: 43–51.
- Antas, P. T. Z. & Palo Jr, H. 2004. *Pantanal: guia de aves*. SESC, Rio de Janeiro.
- Ayuso, J. G. & Arambiza Segundo, A. 2001. *Lista preliminar de las aves del P. N. Kaa-Iya del Gran Chaco e Izozog*. Sociedad para la Conservación de la Vida Silvestre & Fundación Ivi Iambae, Santa Cruz de la Sierra.

- Bates, J. M. 1997. Distribution and geographic variation in three South American grassquits (Emberizinae, *Tiaris*). Pp. 91–110 in Rensen, J. V. (ed.) *Studies in Neotropical ornithology honoring Ted Parker. Orn. Monogr.* 48.
- Bates, J. & Parker, T. A. 1998. The avifauna of Parque Nacional Noel Kempff Mercado and surrounding areas. Pp. 317–340 in Mittermeier, R. A. & Thomsen, J. B. (eds.) *A biological assessment of Parque Nacional Noel Kempff Mercado, Bolivia*. Rapid Assessment Program Working Papers, vol. 10. Conservation International, Washington DC.
- Bates, J. M., Parker, T. A., Capparella, A. P. & Davis, T. J. 1992. Observations on the *campo, cerrado* and forest avifaunas of eastern Dpto. Santa Cruz, Bolivia, including 21 species new to the country. *Bull. Brit. Orn. Cl.* 112: 86–98.
- Baughman, M. M. 2003. *National Geographic reference atlas to the birds of North America*. National Geographic Society, Washington DC.
- BirdLife International. 2004. *Threatened birds of the world 2004*. CD-ROM. BirdLife International, Cambridge, UK.
- Bornschein, M. R. 2001. *Formações pioneiras do litoral centro-sul do Paraná: identificação, quantificação de áreas e caracterização ornitofaunística*. Univ. Federal do Paraná, Curitiba.
- Bornschein, M. R. & Reinert, B. L. 1999. Banhados do litoral do Paraná: alguns aspectos sobre sua nomenclatura, ecologia e conservação. *Cadernos do Litoral* 2: 11–16.
- Bostwick, K. S. 2004. Subtropical Doradito *Pseudocolopteryx acutipennis*. P. 289 in del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, vol. 9. Lynx Edicions, Barcelona.
- Brooks, D. M., Porzecanski, A. L., Weicker, J. J., Honig, R. A., Saavedra, A. M. & Herrera, M. 2005. A preliminary assessment of avifauna of the Bolivian Chiquitano and Cerrado. *Orn. Neotrop.* 16: 85–99.
- Brown, K. S. 1986. Zoogeografia da região do Pantanal Matogrossense. Pp. 137–182 in EMBRAPA-CPAP (ed.) *I Simpósio sobre recursos naturais e sócio-econômicos do Pantanal*. EMBRAPA, Corumbá.
- Brumfield, R. T., Maillard Z., O., Faucett, R. C., Sánchez, G., Rohwer, V. G., Catari, J. C., Schmitt, C. G., Schmitt, D. C., Strem, R. & Mamani, A. M. 2004. Birds of the Laguna Kaucaya area, a semi-humid valley in the Andean foothills of Departamento Santa Cruz, Bolivia. *Orn. Neotrop.* 15: 381–398.
- Bruno, S. F., Carvalho, R. B. A. & Kirwan, G. M. 2006. Bare-faced Curassow *Crax fasciolata* in Serra da Canastra National Park, Minas Gerais, Brazil. *Cotinga* 26: 86.
- Capper, D. R., Clay, R. P., Madroño N., A., Mazar Barnett, J., Burfield, I. J., Esquivel, E. Z., Kennedy, C. P., Perrens, M. & Pople, R. G. 2001. First records, noteworthy observations and new distributional data for birds in Paraguay. *Bull. Brit. Orn. Cl.* 121: 23–37.
- Cintra, R. & Yamashita, C. 1990. Hábitats, abundância e ocorrência das espécies de aves do Pantanal de Poconé, Mato Grosso, Brasil. *Pap. Avulsos Zool.* 37: 1–21.
- Clay, R. P., Capper, D. R., Mazar Barnett, J., Burfield, I. J., Esquivel, E. Z., Fariña, R., Kennedy, C. P., Perrens, M. & Pople, R. G. 1998. White-winged Nightjars *Caprimulgus candicans* and cerrado conservation: the key findings of Project Aguará Ñu 1997. *Cotinga* 9: 52–56.
- Clay, R. P. & Oren, D. C. 2006. Bare-faced Curassow *Crax fasciolata*. Pp. 109–111 in Brooks, D. M. (ed.) *Conserving cracids: the most threatened family of birds in the Americas*. Misc. Publ. Houston Mus. Nat. Sci. 6, Houston.
- Comitê Brasileiro de Registros Ornitológicos. 2007. Lista das aves do Brasil. Versão 16/8/2007. [www.cbro.com.br](http://www.cbro.com.br) (accessed 26 October 2007).
- Davis, S. D., Heywood, V. H., Herrera-MacBryde, O., Villa-Lobos, J. & Hamilton, A. C. 1997. *Centres of plant diversity: a guide and strategy for their conservation*. Information Press, Oxford.
- Dubs, B. 1992. *Birds of southwestern Brazil*. Betrona-Verlag, Künstnacht.
- Farnsworth, A. & Lebbin, D. J. 2004. Alder Flycatcher *Empidonax alnorum*. Pp. 360–361 in del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, vol. 9. Lynx Edicions, Barcelona.
- Fjeldså, J. & Krabbe, N. 1990. *Birds of the high Andes*. Zool. Mus., Univ. of Copenhagen & Apollo Books, Svendborg.
- Gonzaga, L. P. & Castiglioni, G. D. A. 2004. Registros recentes de *Strix huhlula* no estado do Rio de Janeiro (Strigiformes: Strigidae). *Ararajuba* 12: 141–144.
- Gottsberger, G. & Silberbauer-Gottsberger, I. 2006. *Life in the Cerrado—a South American tropical seasonal ecosystem*, vol. 1. Reta Verlag, Ulm.
- Harris, M. B., Tomas, W. M., Mourão, G., Silva, C. J., Guimarães, E., Sonoda, F. & Fachim, E. 2005. Desafios para proteger o Pantanal brasileiro: ameaças e iniciativas em conservação. *Megadiversidade* 1: 156–164.
- Hinkelmann, C. 1999. Buff-bellied Hermit *Phaethornis subochraceus*. P. 545 in del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) *Handbook of the birds of the world*, vol. 5. Lynx Edicions, Barcelona.
- del Hoyo, J. 1994. Bare-faced Curassow *Crax fasciolata*. P. 362 in del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) *Handbook of the birds of the world*, vol. 2. Lynx Edicions, Barcelona.
- Isler, M. L., Isler, P. R. & Whitney, B. M. 1999. Species limits in antbirds (Passeriformes: Thamnophilidae): the *Myrmotherula surinamensis* complex. *Auk* 116: 83–96.
- Isler, P. R. & Whitney, B. M. 2002. *Songs of the antbirds*. Cornell Lab. of Orn., Ithaca, NY.

- Kirwan, G. M., Mazar Barnett, J., Vasconcelos, M. F., Raposo, M. A., D'Angelo Neto, S. & Roesler, I. 2004. Further comments on the avifauna of the middle São Francisco Valley, Minas Gerais, Brazil. *Bull. Brit. Orn. Cl.* 124: 207–220.
- Lima, J. L. 1920. Aves colligidas no Estado de S. Paulo, Mato-Grosso e Bahia, com algumas formas novas. *Rev. Mus. Paulista* 12: 91–106.
- Lopes, L. E. 2005. Dieta e comportamento de forrageamento de *Suiriri affinis* e *S. islerorum* (Aves, Tyrannidae) em um cerrado do Brasil central. *Iheringia sér. Zool.* 95: 341–345.
- Lowen, J. C., Clay, R. P., Mazar Barnett, J., Madroño N., A., Pearman, M., López Lanús, B., Tobias, J. A., Liley, D. C., Brooks, T. M., Esquivel, E. Z. & Reid, J. M. 1997. New and noteworthy observations on Paraguayan avifauna. *Bull. Brit. Orn. Cl.* 117: 275–293.
- Maillard Z., O. & Catari, J. C. 2004. El Azulillo Brasileño (*Porphyrospiza caerulescens*) en la región subandina de Bolivia. *Orn. Neotrop.* 15: 399–402.
- Mauro, R. A. & Campos, Z. 2000. Fauna. Pp. 133–151 in Silva, J. S. V. (ed.) *Zonamento ambiental da borda oeste do Pantanal: Maciço do Urucum e adjacências*. Embrapa Comunicação para Transferência de Tecnologia, Brasília.
- Mazar Barnett, J. & Kirwan, G. M. (compilers) 2000a. Neotropical notebook: Brazil. *Cotinga* 13: 75.
- Mazar Barnett, J. & Kirwan, G. M. (compilers) 2000b. Neotropical notebook: Brazil. *Cotinga* 14: 106.
- Mazar Barnett, J., Kirwan, G. M. & Tobias, J. (compilers) 1999. Neotropical notebook: Brazil. *Cotinga* 11: 101.
- National Geographic Society. 2007. Terrestrial ecoregions of the world. [www.nationalgeographic.com/wild-world/terrestrial.html](http://www.nationalgeographic.com/wild-world/terrestrial.html) (accessed 9 January 2007).
- Naumburg, E. M. B. 1930. The birds of Matto Grosso, Brazil: a report on the birds secured by the Roosevelt-Rondon Expedition. *Bull. Amer. Mus. Nat. Hist.* 60: 1–432.
- Navas, J. R. 2002. La distribución geográfica de *Pseudocolopteryx acutipennis* (Tyrannidae) en la Argentina. *Hornero* 17: 45–48.
- Nunes, A. P. & Tomas, W. M. 2004. *Aves migratórias ocorrentes no Pantanal: caracterização e conservação*. Embrapa Pantanal, Corumbá.
- Olmos, F., Pacheco, J. F. & Silveira, L. F. 2006. Notas sobre aves de rapina (Cathartidae, Acciptridae e Falconidae) brasileiras. *Rev. Bras. Orn.* 14: 401–404.
- Olson, D. & Dinerstein, E. 1998. The Global 200: a representation approach to conserving the earth's most biologically valuable ecoregions. *Conserv. Biol.* 12: 502–515.
- Parker, T. A., Gentry, A. H., Foster, R. B., Emmons, L. H. & Remsen, J. V. 1993. *The lowland dry forests of Santa Cruz, Bolivia: a global conservation priority*. Rapid Assessment Program Working Papers, vol. 4. Conservation International, Washington DC.
- Parker, T. A. & Rocha, O. 1991. La avifauna de Cerro San Simon, una localidad de campo rupestre aislado en el Depto. Beni, noreste Boliviano. *Ecol. Bolív.* 17: 15–29.
- Prado, D. E., Gibbs, P. E., Pott, A. & Pott, V. J. 1992. The Chaco-Pantanal transition in southern Mato Grosso, Brazil. Pp. 451–470 in Furley, P. A., Proctor, J. & Ratter, J. A. (eds.) *Nature and dynamics of forest-savanna boundaries*. Chapman & Hall, London.
- Pinto, O. M. O. 1944. *Catálogo das aves do Brasil e lista dos exemplares existentes da coleção do Departamento de Zoologia*. Segunda parte. Depto. Zoologia, Secretaria da Agricultura, Indústria e Comércio, São Paulo.
- Pinto, O. M. O. 1978. *Novo catálogo das aves do Brasil*. Primeira parte. Empresa Gráfica da Revista dos Tribunais, São Paulo.
- Pinto, O. M. O. & Camargo, E. A. 1961. Resultados ornitológicos de quatro recentes expedições do Departamento de Zoologia ao nordeste do Brasil, com a descrição de seis novas subespécies. *Arq. Zool. São Paulo* 11: 193–284.
- Pivatto, M. A. C., Manço, D. D. G., Straube, F. C., Urben-Filho, A. & Milano, M. 2006. Aves do Planalto da Bodoquena, Estado do Mato Grosso do Sul (Brasil). *Atualidades Orn.* 129: 28.
- Pott, A. & Pott, V. J. 1994. *Plantas do Pantanal*. Embrapa Pantanal, Corumbá.
- Pott, A., Silva, J. S. V., Salis, S. M., Pott, V. J. & Silva, M. P. 2000. Vegetação e uso da terra. Pp. 111–131 in Silva, J. S. V. (ed.) *Zonamento ambiental da borda oeste do Pantanal: Maciço do Urucum e adjacências*. Embrapa Comunicação para Transferência de Tecnologia, Brasília.
- Ragusa-Netto, J. 2000. Raptors and "campo-cerrado" bird mixed flocks led by *Cypsnagra hirundinacea* (Emberizidae: Thraupinae). *Rev. Bras. Biol.* 60: 461–467.
- Reichle, S., Justiniano, H., Vides, R. & Herrera, M. 2003. *Aves del Bosque Chiquitano y Pantanal Boliviano*. Ed. Fundación Amigos de la Naturaleza, Santa Cruz de la Sierra.
- Remsen, J. V. & Traylor, M. A. 1983. Additions to the avifauna of Bolivia, part 2. *Condor* 85: 95–98.
- Ridgely, R. S. & Tudor, G. 1994. *The birds of South America*, vol. 2. Univ. of Texas Press, Austin.
- Rizzini, C. T. 1997. *Tratado de fitogeografia do Brasil: aspectos ecológicos, sociológicos e florísticos*. Âmbito Cultural Ed., Rio de Janeiro.
- Rizzini, C. T., Coimbra Filho, A. F. & Houaiss, A. 1991. *Brazilian ecosystems*. Ed. Lyra & Ed. Index, Rio de Janeiro.



- Robbins, M. B., Braun, M. & Finch, D. W. 2004. Avifauna of the Guyana southern Rupununi, with comparisons to other savannas of northern South America. *Orn. Neotrop.* 15: 173–200.
- Short, L. L. 1982. *Woodpeckers of the world*. Monogr. Ser. 4. Delaware Mus. Nat. Hist., Wilmington.
- Sick, H. 1997. *Ornitologia brasileira*. Ed. Nova Fronteira, Rio de Janeiro.
- Silva, J. M. C. 1995a. Biogeographic analysis of the South American Cerrado avifauna. *Steenstrupia* 21: 49–67.
- Silva, J. M. C. 1995b. Birds of the Cerrado Region, South America. *Steenstrupia* 21: 69–92.
- Silva, J. M. C. 1997. Endemic bird species and conservation in the Cerrado region, South America. *Biodivers. Conserv.* 6: 435–450.
- Silva, J. M. C. & Bates, J. M. 2002. Biogeographic patterns and conservation in the South American Cerrado: a tropical savanna hotspot. *BioScience* 52: 225–233.
- Silva, J. M. C., Oren, D. C., Roma, J. C. & Henriques, L. M. P. 1997. Composition and distribution patterns of the avifauna of an Amazonian upland savanna, Amapá, Brazil. Pp. 743–762 in Rensen, J. V. (ed.) *Studies in Neotropical ornithology honoring Ted Parker*. *Orn. Monogr.* 48.
- Stotz, D. F., Bierregaard, R. O., Cohn-Haft, M., Petermann, P., Smith, J., Whittaker, A. & Wilson, S. V. 1992. The status of North American migrants in central Amazonian Brazil. *Condor* 94: 608–621.
- Tubelis, D. P. 2007. Mixed-species flocks of birds in the Cerrado, South America: a review. *Orn. Neotrop.* 18: 75–97.
- Tubelis, D. P. & Tomas, W. M. 2003. Bird species of the Pantanal wetland, Brazil. *Ararajuba* 11: 5–37.
- Vasconcelos, M. F. & Hoffmann, D. 2006. Os Bosques Secos Chiquitanos também são nossos! *Atualidades Orn.* 130: 10–11.
- White, C. M. 1994. Mississippi Kite *Ictinia mississippiensis*. Pp. 117–118 in del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) *Handbook of the birds of the world*, vol. 2. Lynx Edicions, Barcelona.
- Whittaker, A. 2004. Noteworthy ornithological records from Rondônia, Brazil, including a first country record, comments on austral migration, life history, taxonomy and distribution, with relevant data from neighbouring states, and a first record for Bolivia. *Bull. Brit. Orn. Cl.* 124: 239–271.
- Whittaker, A. & Carlos, B. 2004. Recent observations of Dull-coloured Grassquit *Tiaris obscura* in Mato Grosso reinforce its status as an austral migrant to south-west Brazil. *Bull. Brit. Orn. Cl.* 124: 285–287.
- Whittaker, A., Zimmer, K. J. & Carlos, B. In press. The status of Mississippi Kite *Ictinia mississippiensis* in Brazil, including further documented records for the country. *Cotinga* 29.
- Willis, E. O. & Oniki, Y. 1990. Levantamento preliminar das aves de inverno em dez áreas do sudoeste de Mato Grosso, Brasil. *Ararajuba* 1: 19–38.
- WWF. 2007. Chiquitano dry forests—a global ecoregion. [www.panda.org/about\\_wwf/where\\_we\\_work/ecoregions/chiquitano\\_dry\\_forests.cfm](http://www.panda.org/about_wwf/where_we_work/ecoregions/chiquitano_dry_forests.cfm) (accessed 9 January 2007).
- Zimmer, K. J. & Isler, M. L. 2003. Amazonian Streaked Antwren *Myrmotherula multostriata*. P. 578 in del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, vol. 8. Lynx Edicions, Barcelona.
- Zimmer, K. J. & Whittaker, A. In press. Additional records of Dull-coloured Grassquit *Tiaris obscura* from Brazil. *Cotinga*.

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